^{170}Yb(^{40}Ar,4nγ) 1999Co13

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev	NDS 201,346 (2025)	21-Jan-2025

1999Co13: Beam: ^{40}Ar, E=183 MeV; Target: ^{170}Yb; $\sigma(^{170}Yb(^{40}Ar,4n\gamma))$=5 μb; Detectors: gas-filled recoil separator (RITU); position-sensitive Si detector; JUROSPHERE γ-ray array comprising of 25 Compton-suppressed Ge detectors; Measured: recoil-decay tagging, Eγ, Iγ, prompt and delayed $\gamma\gamma$ coin; Deduced: level scheme.

^{206}Ra Levels

E(level)[†]	J$^\pi$[‡]	T$_{1/2}$[#]	Comments
0.0	0$^+$		
474.3 *5*	(2$^+$)		
1052.1 *7*	(4$^+$)		
1762.7 *9*	(6$^+$)		
2010.1 *10*	(8$^+$)	<1 ns	Configuration=$\pi(h^{+2}_{9/2})_{8+}$ in 1999Co13. The assignment is tentative. Given the short lifetime of this level, a significant mixture with a collective J^π=8$^+$ state can be expected.

[†] From a least-squares fit to Eγ.
[‡] From 1999Co13 based on the apparent band structure and systematics of heavier Ra nuclei.
[#] From 1999Co13.

$\gamma(^{206}Ra)$

E$_\gamma$[†]	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
247.4 *5*	2010.1	(8$^+$)	1762.7	(6$^+$)
474.3 *5*	474.3	(2$^+$)	0.0	0$^+$
577.8 *5*	1052.1	(4$^+$)	474.3	(2$^+$)
710.6 *5*	1762.7	(6$^+$)	1052.1	(4$^+$)

[†] From 1999Co13. Uncertainty of 0.5 keV is assigned by the evaluator.

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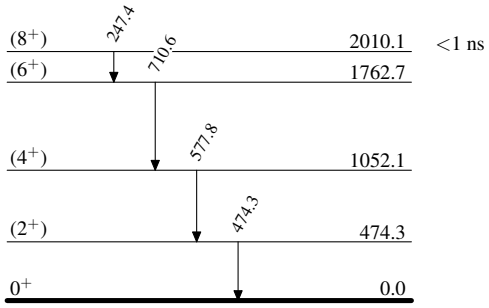
Level Scheme



$^{206}_{88}Ra_{118}$